

SN 10/650,197
Docket No. S-100,576
In Response to Office Action dated August 3, 2006

REMARKS

Applicants appreciate the courtesy shown by the Office, as evidenced by the Final Office Action mailed on August 3, 2006. In the August 3 Final Office Action, the Examiner rejected Claims 1-12. As such, Claims 1-12 remain in the case with none of the claims being allowed.

The August 3 Final Office Action and has been carefully considered. Applicants respectfully request reconsideration of the application in light of the accompanying remarks.

Claims 1-3, 5-6, and 9-12 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Iwase (U.S. Patent 6,656,618) in view of Xie et al. (U.S. Patent 6,646,418). The Examiner states that Xie et al. disclose a stack of fuel cells in which a controller monitors individual cell voltage and "indicates if one or more of the individual cell voltages has reached a preset level and prevents operation of the fuel cell system in the negative potential region."

Applicants submit that, in order to establish a *prima facie* case of obviousness, the combination of references cited must either teach or suggest all of the limitations of the claimed invention. Accordingly, Applicants submit that, contrary to the Examiner's assertion, Xie et al. do *not* teach or suggest monitoring individual fuel cell voltages to determine whether the individual voltages are in danger of reversal to a negative potential.

Applicants submit that Xie et al. do not address monitoring voltage to detect reversal of cell voltage to a negative potential, but instead teach monitoring the slope of power (through cell load) versus current. See column 2, lines 26-28, of the reference. The purpose of monitoring load and current – rather than voltage – is not to detect reversal of fuel cell voltage to a negative potential, but to prevent any fuel cells from operating in the negative dP/dI region. See column 1, lines 47-48, and column 3, lines 31-32.

Applicants submit that the "negative dP/dI region" described by Xie et al. does not refer to a region of negative potential, but instead refers to a region of lower fuel cell efficiency. In Figure 2 of the reference, for example, negative dP/dI region 204 is a region where the cell potential is positive. While negative dP/dI region 204 is a region of lower fuel cell efficiency, it is not necessarily a region in which the cell potential is in danger of reversing to a negative potential. If region 204 were a region in which cell potential had reversed to a negative value, the current would reverse direction through the cell and thus have a negative value.

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Because the combination of Iwase and Xie et al. fails to teach or suggest monitoring individual fuel cell voltages to determine whether the individual voltages are in danger of reversal to a negative potential, Applicants submit that the rejection of Claims 1-3, 5-6, and 9-12 under 35 U.S.C. §103(a) as being unpatentable over Iwase in view of Xie et al. is successfully overcome.

Claim 4 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Iwase in view of Xie et al., and in further view of Rajashekara (U.S. Patent 6,321,145).

Claim 7 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Iwase in view of Xie et al., and in further view of Fuglevand (U.S. Patent 6,497,974).

Claim 8 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Iwase in view of Xie et al., and in further view of Bourlikov (U.S. Published Application 2004/0174072).

Claim 4 depends from independent Claim 1, whereas Claims 7 and 8 depend from independent Claim 6, and thus include all of the limitations of these base claims by reference. As previously presented, neither Iwase nor Xie et al. teach or suggest monitoring whether the individual voltages are in danger of reversal to a negative potential, as recited in Claims 1 and 6. Applicants further submit that neither Rajashekara, nor Fuglevand, nor Bourlikov teach or suggest this limitation as well. Therefore, the rejections of Claims 4, 7, and 8 under 35 U.S.C. 103 as being unpatentable over Iwase in view of Xie et al. and in further view of Rajashekara, Fuglevand, and Bourlikov, respectively, are successfully overcome.


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In light of the amendment and remarks presented herein, Applicants submit that the case is in condition for immediate allowance and respectfully request such action. If, however, any issues remain unresolved, the Examiner is invited to telephone Applicants' counsel at the number provided below.

Respectfully submitted,

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